Government of Jammu and Kashmir,
Directorate of Technical Education, J&K, Jammu.

ABBREVIATED TENDER NOTICE.

The Directorate of Technical Education Department intends to purchase various/ Machinery and Equipments for use in existing ITIs of the State under various schemes for the year 2011-12.

The Detailed NIT for supply of Machinery and Equipments shall be made available to the interested Registered / reputed Manufacturers/ authorized Dealers / suppliers against a payment of Rs. 5000/-(five thousand only) through a Demand Draft Non-refundable / transferable pledged to Accounts Officer, Directorate of Technical Education, J&K, Jammu up-to 13-03-2012 during office working hours. The Tender documents shall also be available on the official Web site **www.jkdte.org** of this Directorate**.** The tenders will be received back in the office of the undersigned by or before 14-3-2012 up-to 4.30 PM and shall be opened on 15-03-2012 at 1.00 PM.

The detailed NIT can be obtained from office of the Director, Technical Education, J&K, Bikram Chowk Jammu. (Near Government Boys Polytechnic Jammu)

(J.P.Singh),KAS
Director,
Technical Education, J&K,
Jammu.

No:- DTE/PUR/11/286
Dated:- 22 -02-2012.

Government of Jammu and Kashmir,
Directorate of Technical Education, J&K, Jammu.

To,
The Joint Director, Information (A.V.)
Advertisement Department,
Information Department, Jammu

No:- DTE/PUR/11/ 287-288 Dated:- 22-02-2012
Subject:- Advertisement Notice- Publication thereof.

Sir,

I am enclosing (05) copies of abbreviated tender notice issued by this Directorate under No. DTE/PUR/11/286 dated:22 -02-2012 for the purchase of different Machinery and Equipments and other peripherals, during the financial year 2011-12 for publication of the same in two leading National(English) daily and two local dallies one each from Jammu and from Srinagar for information of the General Public.

It is requested that the same be got published in the Local / National Dailies twice, so that detailed NIT could be purchased by the tenderers well in time.

Yours faithfully,

Accounts Officer,
Technical Education, J&K, Jammu,
(Member Secretary SLPC).

Copy to the :-

1. General Manager Govt. Press Jammu for information and with the request that the enclosed NIT may be got published in the coming issue of the Govt. Gazette for general information on the public.

2/t11-12/ali/md

Government of Jammu and Kashmir,
Directorate of Technical Education, J&K, Jammu.

NOTICE INVITING TENDERS (NATIONAL COMPETATIVE BIDDING)

For and on behalf of the Governor of Jammu and Kashmir State, Sealed tenders duly affixed with Five Rupees Revenue Stamps are invited from the Registered Firms / Manufacturers & their Authorized Dealers for the Supply of Machinery Equipments etc. from group A to G for use in existing ITI's, Women ITI's, Women Wings under Prime Ministers Reconstruction Plan ,State Plan / Non-Plan schemes. The Tender document can be had against Non-refundable/ transferable Demand Draft amounting to Rs. 5,000.00 (Five Thousand Only) pledged in the name of Accounts Officer Directorate of Technical Education, J&K on the Terms and Conditions given below.

1. The Bidder/Tenderer shall submit their bids in two cover system.

Cover I "Technical Qualification". Will contain

A. Call Deposit Receipt as prescribed
B. Attested copies of the following documents.

   i) PAN,TIN,CST/GST Numbers.
   ii) Sales Tax & Income Tax Return for last three years issued by the Competent Authority.
   iii) Balance Sheet.
   iv) Registration Certificate.
   v) Company price List in sealed envelop.

C) Detail of similar machinery/ equipment supplied elsewhere.
D) Item-wise Literature / Pamphlets etc.
E) An affidavit duly attested by 1st. Class Magistrate on Non-Judicial Paper.

2. **Cover II will contain** price bids in which Bidder/Tenderer shall quote their rates for items which have been advertised.

1	Financial bid of only those Bidders/Tenderers shall be opened and considered for evaluation who would be declared successful in technical qualification.
2	Bidder / Tenderer must have Turnover of any one year among the last two years not less than as shown against each group (Certificate form C.A should be submitted as a proof) Group A 250 Lac Group B 250 Lac Group C 100 Lac Group D 50 Lac Group E 50 Lac Group F 150 Lac Group G 50 Lac
3	Bidder/ Tenderer shall provide the proof of past supply along with list of similar products sold and name of the buyers for proceeding 3 years.
4	The Bidder/Tenderer should clearly mentioned the warranty period of the product.

5	The successful bidder / Tenderer shall have to provide training to the identified officials of the Department to operate the Machinery at the place of installation.
6	**Bidder/ Tenderer must quote all items of the group failing which the tender shall be rejected.**
7	**The Bidder / Tenderer should attach a copy (duly attested by a Gazetted Officer) of PAN/TIN/CST/GST, Sales Tax & Income Tax Return for last three years, Balance Sheet, Registration certificate, Company's Price list with the bid.**
8	**The Director, Technical Education, J&K reserves the right to accept or reject any tender or part thereof without assigning any reason / reasons thereof.**
9	**In case Bidder / Tenderer is not a manufacturer himself, he should submit original letter from manufacturer authorizing him to submit quotation on his behalf.**
10	Bid/offer should be submitted strictly as per the specification mentioned in the schedule of items.
11	Offers should be supported by visuals, pamphlets and relevant literature. Samples will be sought where felt necessary, and the same should be kept in readiness, so that same can be provided to the Purchase Committee, when asked, within a period of 7 days and the samples will remain in the custody of the Department at any place as per their convenience till the supplies are received in full and verified thereafter.
12	In case, of any shortfall in the ordered supply by the Supplier/ Manufacturer/ Distributor/ Authorized Dealer penalty @ 5% (Five percent) of the total cost of the order shall be recovered from him/ them
13	**The Equipments shall be received at the following destination:-** **S.No. Name of ITI Destination** 1. ITI's of Jammu Province ITI Jammu (Central Store), 2. ITI's of Kashmir Province ITI Budgam(Central Store),
14	Rates quoted must be inclusive of all taxes applicable (VAT. Entry Tax, Other taxes etc)
15	The successful Bidder / Tenderer shall have to furnish Security Deposit equivalent to 5% of supplied value of Goods in the form of Bank Guarantee during warranty period from any Nationalized Bank pledged to Accounts Officer, Directorate of Technical Education, J&K. Such Bank Guarantee shall be furnished within 15 days (Fifteen Days) from the date of issue of supply order. It would be in addition to the CDR/ FDR submitted with the bids.
16	The rates be quoted only against the specified items. In case of specifications, the committee shall have the right to take decision in consultation with Experts at the time of finalization of rates.
17	The quantity mentioned in the Annexure is subject to minor increase or decrease as per the availability of funds.
18	**Each Offer/Tender shall be accompanied with a "Call Deposit Receipt/ Fixed Deposit Receipts" equivalent to 2% of cost of quoted items or Rs. 50000/- (Rupees Fifty Thousand) for each specific group whichever is more from any scheduled bank pledged to the "Accounts Officer, Directorate of Technical Education, J&K, Jammu". No Cheque or Bank Draft in lieu of Call Deposit Receipt/FDR shall be accepted in any case.**
19	The successful Bidder / Tenderer shall have to execute an agreement with the Department within 15 days after acceptance of the Tender is communicated to him. Failure to execute such agreement shall not prevent to the terms and Condition embodied herein being enforced against him and any loss sustained by the Department in re-tendering shall be recovered from him besides forfeiture of the CDR/FDR & Security deposit.
20	The rates should be quoted on tender document. Incase of any deviation, separate sheet should be enclosed.
21	The Small Scale Industries Units of the State who desire to quote the rates will be deal in accordance with State Industrial Policy.
22	**The rates should be quoted both in Words & figures and without any cuttings/ erasing /overwriting. No such rates wherein any cuttings/ era-sings / over-writings is/are found will be considered for comparison.**
23	**Rates shall remain valid for a period of One year from the last date of receiving of**

	tenders.
24	In case of any doubt, dispute, arising between Tenderer and Department regarding incorporation of any of the terms and Conditions of the NIT or any matter connected or incidentals here to or the respective right and responsibility of the parties, the same shall be referred to the Commissioner/ Secretary to Govt. Technical Education Department, J&K, or any other person nominated by him in this behalf for arbitration, his decision in the matter shall be final, conclusive and binding upon the parties. All the disputes between the parties evolving legal intervention shall be subject to the jurisdiction of J&K High Court.
25	**The Bids / Tenders should be sent either under sealed registered Cover or deposited in the Office of the Undersigned (DIRECTOR, TECHNICAL EDUCATION, J&K , NEAR: GOVT. BOYS BIKRAM CHOWK JAMMU by or before 14-3-2012 upto 4.30 PM against proper receipt on the Working day only. In case the last day being a holiday the same shall be accepted on next working day up to 4.30 P.M.**
26	**Tenders documents downloaded from official web site Web site:- www.jkdte.org shall have to be appended with Rs.5000 /- as cost of tender documents at the time of deposit in shape of DEMAND DRAFT pledged to Accounts Officer, Directorate of Technical Education, J&K.**
27	The Tender must be complete in all respects. All the terms and conditions of tender including Technical Specifications should be carefully studied for the sake of complete and comprehensive offer.
28	Time shall be essence to the contract. In the event of failure or default on the part of the Bidders/Tenderers on the fulfillment of any of the terms and conditions embodied herein or in the event of his failure to supply the ordered equipment etc. within time fixed from the date of dispatch of the Supply order, the Director, Technical Education shall without any prejudice to its claims and remedies available to him/her under any law be competent to forfeit the Earnest Money in whole or a part or to terminate the contract after 30 days notice to the Tenderer or impose such penalty as may be determined by him.

Director
Technical Education/
Chairman SLPC
J&k, Jammu.

DTE/PUR/2011-12/ 289-290
DATED: 22-02-2012

CHECK LIST.

CHECK LIST FOR TENDERER TO BE SUBMITTED ALONGWITH TENDER.

S.No.	Description	Remarks Yes / No
1	Please Confirm whether tender fee in the shape of Indian Postal Order attached?	
2	Whether EMD in shape of CDR/FDR attached?	
3	Whether registration certificate for Manufacturing / trading of similar nature of Machinery / equipment is attached?	
4	Whether copy of Income-Tax /Sales Tax Return /Balance sheet of proceeding last three years attached?	
5	Whether copy of Sales-Tax (TIN GST /CST/ PAN number attached?	
6	Whether last three years production and sales, figures of manufacturing unit in quantity and value attached?	
7	Whether literature/ catalogues of relevant equipments attached?	
8	Whether the Details of similar machinery / equipment supplied elsewhere attached?	
9	Whether the copy of company price list enclosed?	

N.B: All Zerox documents must be attested by Gazetted Officer.

DECLARATION:-

I/We solemnly declare that I/ we have attached all the documents mentioned here above which are correct to the best of my knowledge & belief (An affidavit duly attested by Ist Class Magistrate attached). I/ We also understand that shortfall of any documents will be treated as “NON-RESPONSIVE” Tender and I/we will loose my/our claim to participate in the Tender Enquiry automatically and my/our Bid/ Tender shall be liable for rejection

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Signature of Bidder

ANNEXURE " 1" DETAILED TENDER NOTICE NO: DTE/PUR/2011-12/ 289-290
DATED: 22-02-2012

Group: A

TRADE: Information Technology, Radio & TV, Electronic Mechanic, Mechanic Consumer Electronics, Mechanic Industrial Electronics & Domestic House Keeping.

S. No	Name of the Item with specification	Quantity	Rate per unit	VAT	Entry Tax	Other Taxes	Total.
1.	2.	3.	4.	5.	6.	7.	8.
1	**Electronic Component Trainer Kit:-** In built power supply AC/DC variable with facility of performing various experiments on basic electronics including all active and passive components, having diodes/ transistor, ohms law kcl, kvl etc. optoelectronic device, half wave full wave recrification, power supply troubleshooting, amplioviers, oscillators, invertor, logic gates , mixer modulator, demodulator, Digital Display, Speaker 8 ohms Scr experimental facility and manual .	04					
2	**Linear IC Trainer** having inbuilt power supply sockets controls for linear type of ICs DC regulated power supplies Fix +- 12V/250mA, Variable 0 to +- 5 V/250mA 2. Sine wave oscillator of 1 KHz at 0.5 V p-p is built in 3. Functional diagram of IC 741 with input point is printed on board. Additional 8 pin IC base with machine pins is provided for putting any other IC of choice 4. Digital voltmeter 0-20 V DC 1 no 3.1/2 digit, LCD display, mains operated. 5. Assorted values of resistance 11No. 100, K, 3.3 K, 5K, 10K, 22K & 100 K ohms 6. Assorted value of capacitances 3 No 0.1, 1, & 10 uF 7. potentiometer 10 K ohm, Linear V 1 No 8. 2mm inter-connection leads 10 No 9. Toggle switch with selection of input or output V is provided. 10. Comprehensive USERS manual for performing 10 experiments on OP-AMP.	32					
3	**Digital IC Trainer** having inbuilt power supply sockets controls for digital type of ICs :- i) 10 nos. of TTL compatible logic level inputs ii) TTL logic selectable by a toggle switch iii) Logic HIGH and logic LOW are displayed by dual color LED. iv) Four crystal generated clock output of 1MHz, 1KHz, 10Hz, and 1Hz. v) Facility for single pulse generation by a push button switch. vi) Logic probe to check logic LOW, logic HIGH and pulse. vii) Four seven segment displays with BCD inputs viii) Facility of segment control on two displays. ix) Sockets onboard to fix the IC's : 16 pin-4nos., 20 pin- 2 nos., 28 pin-6 nos., 40 pin-2 nos. x) 2 nos. of 14 pin general purpose area provided for soldering descrete components. xi) Two nos. of 26 pin connectors for input/output connection with Microprocessor kit through 8255. xi) Built-in Power supply : 5V, 1Amp, +12V, 250mA	46					

1.	2.	3.	4.	5.	6.	7.	8.
4	CRO Trainer Kit 30 Mhz CRT : 6" RECTANGULAR SCREEN WITH INTERNAL GRAPHICAL 8x10 DIVISION (1 div-1 cm) DISPLAY: CH1, CH2, ADD, ALT &CHOP. DEFLECTION FACTOR: 5Mv/div to 5v/div ±3% I) BLOCK DIAGRAME ON THE TOP PANEL. ii) 12 FAULT SWITHES ON THE FRONT PANEL. iii) CONTROL SWITCHES ON THE FRONT PANEL. iv) 8 TEST POINTS ON THE TOP PANEL. v) SIDE HANDELS PROVIDED TO CARRY THE INSTRUMENT.	03					
	CRO Trainer Kit 20 Mhz:- CRT : 6" RECTANGULAR SCREEN WITH INTERNAL GRAPHICAL 8x10 DIVISION (1 div-1 cm) DISPLAY: CH1, CH2, ADD, ALT &CHOP. DEFLECTION FACTOR: 5Mv/div to 5v/div ±3% I) BLOCK DIAGRAME ON THE TOP PANEL. ii) 12 FAULT SWITHES ON THE FRONT PANEL. iii) CONTROL SWITCHES ON THE FRONT PANEL. iv) 8 TEST POINTS ON THE TOP PANEL.	21					
5	Dual Trace CRO:-**:-Triggering Mode :** Automatic or Normal with Level Control. **Source :** CH1 / CH2 / LINE / EXT. **Slope :** Positive or Negative. **Coupling :** ac / dc / HF reject or TV Frame / TV Line. **Trigger Sensitivity :** Internal : AUTO 0.5 div 30Hz - 20MHz NORM 0.5 div 3Hz - 20MHz. External : AUTO 0.8V p-p 30Hz - 20MHz NORM 0.8V p-p 3Hz - 20MHz. (TYPICAL 40MHz). **HORIZONTAL DEFLECTION** **Deflection :** Same as CH2. **Coefficient** **Bandwidth :** DC - 2.5MHz (-3dB). Phase shift <3 deg. at 60KHz. **Input Impedance :** 1M ohms and 25pF (approx.). **COMPONENT TESTER** Component Tester allows V-I characteristics of a Device - Under Test (D.U.T.). **Test Voltage :** 8.6 V r.m.s. **Test Current :** 28 mA max. **Test Frequency :** 50Hz or 60Hz (MAINS).	12					
6	Function Generator:- Generates frequency from 1Hz to 250KHz in 6 steps wave from is Sine, Square and Triangular. Output is variable from 0 to 10 Volts. accuracy ±3% or 2Hz. Output Impedance 50ohms. Solid State. Workable on 220V 50Hz Complete I.C. version with coarse and fine controls for output and frequency selection. Dimension 11"x5½"x5".	20					
7	**Frequency Counter:-** 0.2 Hz to 1.3 GHz , 2 Separate channels for low & high frequencies , 8 digit display ,period measurement , 4 selectable gates (10 ms , 100 ms , 1 sec ,10 sec) , low pass filter for noisy low frequency signals .	15					
8	**Pulse Generator:-** 10 MHz , variable pulse width & delay , low rise & fall time , fast rep . rate upto 10 MHz , manual & external triggering , output amplitude 5 v -p-p	6					
9	**Field Strength Meter:-** All the components of the meter should be installed on PCB included 12 v light battery. A close-up of the filed strength meter Mk1 connected	1					

	to a multimeter with paper clips fitted to the multimeter terminals including multimeter 0v-10 v range with catalog.						
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
10	Invertor Trainer 500 Watt	1					
11	UPS Trainer 500 va	1					
12	**Signal Generator AM / FM** :- Frequency range – 100KHz to 260 MHz , Digital display , Output voltage – 100 mV , Internal Mod . Frequency 1 KHz to 400 Hz selectable , External Mod. Frequency 50 Hz to 20 KHz , Level – 15 V p-p .	36					
13	RF Signal Generator :- Inveld having accuracy and arrange of 10 khz to 10 ,mhz Digital frequency control, Sine& square wave output, peak to peak voltage 20 v variable with catalog.	04					
14	Colour TV Receiver (CRT):- 21 " Flat picture tube , stereo sound , A V in / out facility .	05					
15	**LCD/LED Receiver** 22" stereo sound audio video output with USB port latest pattern	04					
16	**DTH Receiver** (TVRO) Terminal with LNB & receiver video type : Pal B/G/ 1, D/K NTSC Audio output 2Xrca (L/R) front panel all digital	01					
17	Line amplifier for cable TV :- Frequency range :5-900 Mhz Gain :10 db maximum output :20Bmv (7CH) Noise Figure : 4 Db power requirement : 12 -18 VDC @ 40 ma power supply : Input -230 VAC , 50 HZ output 18 VDC @ 150 ma	02					
18	Linear Amplifier Trainer	05					
19	**8085 Microprocessor Trainer** Kit:- Inbuilt power supply , display , c p u – clock frequency -6.144 MHz or higher , Rom – 4 kb or higher , Ram – 64 kb or higher , I / O lines , Serial communication through RS 232 C channel .	19					
20	**Micro controller** Trainer Kit 8051 A.) Based on 8085 CPU operating at 6.144 MHz crystal frequency. B.) 8K bytes of EPROM loaded with powerful monitor program. C.) 8K bytes of RAM available to the user. D.) Total on board memory expansion upto 64K bytes using 2732/2764/27128/6264/ 62256 with 1 socket of 28 pin. E.) Memory mapping definable by the user. F.) 16 bit programmable TIMER/COUNTER using 8253. G.) 24 programmable I/O lines provided through 8255. H.) RS-232C interface through SID/SOD Lines with Auto baud rate. I.) Two modes of commands: i) Hex Key pad mode ii) Serial mode J.) All address, data & control lines are buffered and made available at the edge connector as per STD bus configuration. K.) 25/28 key hexadecimal keyboard and six seven segment displays through 8279. L.) Powerful software commands like Relocate, String, Fill, Insert, Delete, Block Move, Examine/Compare Memory, Examine Register,Insert Data, Delete Data, Single Step, GO, Break Point in both Serial & Keyboard mode. M.) Facility for Downloading/Uploading files	04					

	from/to PC. O.) In-built Power supply P.) User's Manual.						
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
21	**PIC Microcontroller**:- Trainer with necessary software:-supply 12v dc battery motherboard dimensions: 40x90mm, temp/humidity board dimensions:30x60mm, counter /timer board dimensions:30x60, A/D board dimensions:35x40mm, product format self assembly electronic kit.	04					
22	**Application** board for Microprocessor and Microcontroller Kits.:- the processor can be reset, resding/writing memory, data memory data memory as well as internal memory, set of break points can be set, full speed execution, break to a particular address can be accomplished, single stepping using trace into, step over can be done, with catalog.	02					
23	**Cable Transmission System** single paid high speed digital subscriber line (SHDSL) transceivers, Asymmetric digital subscriber line ADSL Transceiver, SPlitterless asymmetric digital subscriber line ADSL transceivers, Asymmetric digital subscriber line transceivers 2 ADSL 2 , Asymmetric digital subscriber line ADSL transceiver-extended bandwidth ADSL 2 VDSL 2, Handshake procedure for digital subscriber line DSL transceivers, Physical layer management for digital subscriber line DSL transceivers.	02					
24	**P.A. Amplifier:-** FM/ AM tuner with 8 functions CD Player 60 watt RMS /90 WATT MAX; ac 115 V/230 V 50/60 Hz 60 -15 Khz 4 MIC inputs (1 mv ;250 ohm ; 1 AUX input (200 mv 47 k); 1 telephone (1.1v 600 ohm); 4/8/16 ohms & 25/75 V line outputs; Music on hold feature, seperata bass and FM/ AM tuner with 8 function CD player;60 watt RMS /90 watt Max; AC 115 V/230 V 50 With hi fi speaker	09					
25	P.C. Hardware trainer Kit POWERFUL MONITOR WITH COMMANDS LIKE EXAMIN MEMORY, PENTIUM-IV CPU, 512MB/1GB OF RAM, 80/160 GB OF HARD DISK DRIVE, CD/DVD COMBO DRIVE, 18" LED MONITOR, OPTICAL MOUSE, OPERATING SYSTEM: WIN XP2 (PRE LOADED). THE SYSTEM SHOULD BE INSTALLED IN A BOX WITH ALL PARTS MARKED WITH DESCRIPTION TO GIVE THE INDICATION OF ALL THE BLOCKS OF THE TRANNER. MORE THAN 100 PRACTICALS EXPERIMENTS ON BOARD FAULT SIMULATION THROUGH JUMPERS ANS SWITHES.	06					
26	Network Training Kit : A minimum data rate of 100 mbps the ability to support a cascaded star topology over category 3,4 and 5 twisted pair and fiber optic cable, the demand –priority access method that allows for two priority levels (low and high). The ability to support an option for filtering	06					

	individually addressed frames at the hub to enhance privacy, support for both Ethernet frames and token ring packets.						
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
27	**Analog Kit Trainer:-** (A) In built - power supplies , with facility of performing various experiments on basic electronics including diode / transistor characteristics , Ohms law , KCL , KVL etc . (B) Analog Trainer Kit - Solder less tie points 2520 , DC power supply 0 – 15 V 200 mA variable ,5 V,-15 v,+15 V fixed -! Amp, AC voltage 10 v,15,20,,25 V, Sine wave generator amplitude 0- 10 Volt Variable, Frequency 1 KHz – 10 KHz VARIABLE, fixed 100Hz , 1 KHz , 10 KHz , 100 KHz with frequency course	04					
28	Fractional horse power motor AC induction type universal type/Servo Motor.	02					
29	Coil winding Machine :- Wire diameter 0.01 - 12 mm, Pitch 0.01 - 20 mm Coil diameter 500 mm, Winding Length 850 mm, Distance between centre 900 mm, Motor Option 2.2 Kw (1phase 220V AC) 3.0 Kw (3phase 380V AC), Speed up to 3000 rpm up to 3000 rpm, Torque max 186 Nm max 250 Nm	09					
30	Commercial Radio receiver transistorized various models and portable: AM/FM , SW with various Bands digital tunning system DC operated 4.5 V	12					
31	Service Oscillator:- Operating temperature is the full required range of ambient operating temperatures. Typical supply voltages include 1.8 v, 2.5v ,3.3.v, 5.0 v ,12.0 V and 15V. Oscillators vary in terms of output type. Circuits with transistor –transistor logic (TTL) USE A 5 V Power supply. TTL signals are "low" when between 0v and 0.8 v with respect to the ground terminal and "high" when between 2 v and 5 v (Digital type)	14					
32	**Wobbulator or Sweep Generator:-** RF-13 MODE SELECTION IN RF BAND OF 1 TO 240MHZ, RANGE COVERING VHF&FM MODES, OUTPUT LEVEL 100mv R.M.S, SWEEP WIDTH 5MHZ TO 30 MHZ, ATTENUATION 90db ATTENUATION IN STEPS OF 20db 3 TIMES, 10db 3TIMES, MARKERS 5 SIMULTANEOUS MARKER AVAILABLE PULS AND BIRDY, DIGITAL COUNTER	15					
33	**T.V Receiver Trainer Colour/B&W:-** Remote controlled type ,, 14" picture tube , hyper band , Audio / Video in out , All parts soldered on tags on single trainer PCB with complete circuit diagram screen printed with fault introduction facility or latest.	28					
34	**Signal Injector** 0-2.5Vrms output						

	(adjustable), output impedance: 1.5Kohm, frequency: ± 1kHz, tracer: 3.5mV to 10Vrms sensitivity (adjustable), gain: 40dB input impedance: 50Kohm output power: 0.5W / 8ohm power supply: 7-9VAC or 9-12VDC / 150mA	26					
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
35	Distortion meter. **Fundamental Frequency Range** 20Hz ~ 20kHz in 3 continuous ranges with fine adjustment tuning and 3 spots for 400Hz, 1kHz and 10kHz only **Input Level** 100mVrms ~ 300Vrms **Automatic Level Control Range** +10dB **Fundamental Rejection** 80dB or above **Second Harmonic Accuracy** Within +1dB at a basic frequency of 20Hz ~ 20kHz **Residual Distortion** (Including hum and noise) Less than 0.03%, **AC Voltage Measurement Range** 1mVrms ~ 300Vrms full scale in 12 ranges by auto ranging, **Frequency Response** 20Hz ~ 200kHz +1dB, **Input Impedance** 100kΩ+10%, 70pF or less (Unbalanced), **Accuracy** Within +3% of full scale (at 1kHz), **Residual Noise** Less than 10μV (input short circuited), **Output Level** X : 1Vrms, Y : 500mVrms at meter full scale **Output Impedance** Approx. 600Ω, **Power Source** AC 100/120/220/240V, ±10%, 50/60Hz **Accessories** Instruction manual × 1, Power cord × 1	09					
36	Pulse Generator **PLL reference**: The internal PLL is locked to an external 5 MHz or 10 MHz reference frequency. **Clock input**: The output period is determined by the signal at CLK input. **Input impedance**: 50 Ω/10 kΩ selectable. **Threshold**: -10 V to +10 V. **Max. input voltage**: }15 Vpp. **Sensitivity**: 300 mVpp typical. **Input transitions**: < 100 ns. **Frequency**: Dc to 50 MHz. **Minimum pulse width**: 10 ns **Digital to analog convertors.**	15					
37	**A to D trainer Kit -do-D to A Trainer Kit:-** 2 fixed out put DC regulated power supply of 5 v and ±15v, 8 logic input 0-1 selectable through SPDT switches are provided on frount panel,1 analog voltamter mount on front panel, circuit diagram for 4/8 digital to analog convertors.	07					
38	Discrete component Tester:- Transistors 600 to 2000 volts Diodes 20 to 500 Amps, FETs 3 station capability JFETs Handler, interface, Zeners prober interfaces, IGBTs PC Applications software, Darlingtons 0-99 sort Display, MCTs compact Bench design SCRs expert DATA to excel , triaces statistical reports, optos Hi Rel Reports, Small signal Devices columnar Reports, power semi components extensive test library. Multi Device packages Easy to use	08					

	software , Arrays and Hybrids safety Featers.						
39	A.M. Trainer kit (modulation & demodulation) Modulating signal (300 Hz to 10 Khz) 0-5 V Variable carrier signal 1.5 Khz -50 Khz (0-5) V variable modulators:1 . ring modulator 2. Transistor based Modulator, Demodulation : Using envelope detector, power :230 v ± 10% 50 Hz , Accessories : Manual, Set of patch , cords line cord.	03					
40	F.M. Trainer Kit (modulation & demodulation) Pulse modulation technique, pulse amplitude modulation, Pulse width modulation, Pulse Position Modulation, on board sampling, frequencies (pulse) :16 Khz, 32 Khz, on board generators, sine wave 1 Khz & 500 Hz, Amplitude (0-5) tolerance ±5% 4 analog input channels sampled and time division multiplexed, 4 channel demultiplexer, Generation of clock at receiver by PLL, System, 4th order butterworth L.P. Filter Built –in power supply.	02					
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
41	P.M. Trainer kit.(phase modulation):- built in IC based power supply on board modulating digital data signal generator, balance modulator as phase modulator , demodulator type balanced modulator, square all parts are soldered on single pcb of with complete circuit diagram screen printed standard accessories, training manual , connecting patch cords.	02					
42	DVD Demonstration Player :- 5 Channel supporting all types of disc format / USB port facility, fault simulation facility, HDTV level resolution	03					
43	**C.D. Player Trainer**:- 230 V / 50 Hz , PAL / NTSC system , C D Format – Audio C D / M P 3 / V C D 2.0 / 3.0 , Audio / Video out , R F out . Fault simulation facility .	02					
44	Fault Finding Tester:- Mains input supply voltage 100 v to 120 v rms at 50/60 Hz ± 10% 207 v TO 253 v RMS AT 50/60 Hz ± 10% power consumption 30 w maximum quiescent Earth leakage current 3 mA maximum.	02					
45	**Color TV Trainer:-** Remote controlled type , CCIR- B – PAL – G – 625 lines system , 21 " picture tube , hyper band , Audio / Video in out , All parts soldered on tags on single trainer PCB with complete circuit diagram screen printed with fault introduction facility .	09					
46	**Colour Pattern Generator:-** 32 MHz – 860 MHz , I.F + V.H.F. + MID Band + UHF , Video output , audio out put , V – H sync output , 14 test patterns , LCD display , INT . A / V output , EXT . A / V Input .	**15**					
47	**Washing Machine (Trainer)** Programme 7 number of option 9, LCD display, Semi Automatic , Cpacity 5.5 Kg, Control Panel – wash , rinse, spin cycle , auto power off timer, display, fault simulation facility , trainer patern.	**11**					
48	**Washing Machine (Domestic)** capacity 5.5 kg , control panel – wash , rinse , spin cycle , auto power off , timer display , Fault simulation facility (Semi Automatic).	**09**					
49	**Carpet Shampooing Machine:-** Twin motor upright machines, power requirements :8 AMP 220-240 Volts, vacuum motor 750 watt. Water lift 1700 mm, Air lift 38liters / second . Filteration down to 3 microns	**09**					

	or lower , Dust bag capacity minimum of 5 litre preffered, Brush motor 150 watt., brush strip replaceable power requirements 8 AMP 220-240 Volts , Vacuum motor 750 watt, water lift 1700 mm, Power requirements , Drive motor ½ Horse Power, Vacuum Motor 1 ½ -1 ¾ Horse Power.						
50	E PROM Programmer:- Universal E PROM Programmer (stand alone) sporting 2716,2516,2732, A etc. Univesal EPROM Programmer (PC Based) supporting 2716,2516,2732 A etc. Performing No. of Pins, sockets with USB ports , window 2000xp , Mc 2003 Vista.	05					
51	**Grinder Bench Electric (Small size):-**230 V/ 50 Hz, 0.5 H.P / 1 HP	07					

1	2	3	4	5	6	7	8
52	Battery Storage and lead acid for UPS 12 V	09					
53	A.F. Oscillator 20 Mhz to 100 khz:- Frequency ragne :20 Hz to 100 Hz , output level, range 0.6 mV to 12 volt peak to peak sine and square wave facility , Frequency control , digital LCD Catalog.	24					
54	**L.C. R. Bridge:-** (Digital) -L – 0.1 micro H to 10,000 H , C – 0.1 pf to 2000 mfd , R – 1 milli ohm to 10 M ohm , test frequency 1khz to 120 khz , test signal level – 0.9 Vrms	15					
55	**Commercial AM / FM Transistor Radio Receiver Trainer**:-(3 – Band MW / S W / F M) , Built in power supply , all parts soldered on tags on single trainer PCB t with complete circuit diagram screen printed , fault introduction facility .	24					
56	Colour TV Camera CCVT · 480 lines of resolution · 8 mm lens · 12 VDC power · IR Range of 150 ft. · Indoor/Outdoor **Video Hardware/** Max Resolution 480 TV lines Dimensions 5.7" x 4.5" x 13.6" Light Sensitivity 0.0 lux (in range of built-in IR on) Weight 3.75 lbs. Image pick-up device 1/3" color CCD Operating Temperature 24° F—104° F Lens 8 mm mini-lens Indoor/outdoor Weatherproof housing Electronic shutter 1/60—1/100,000 sec IR Range 150 ft. S/N ratio >50 dB Picture elements 768 x 494 Video Output BNC 1 V P-P, 75 ohms	10					
57	Digital IC Tester Kit LCD display information 40 pin capacity coveres TTL CMOS memory ICs:- Facility to test most of the 6,8,10,14,16,18,20,24,28 and 40 pin digital IC , Automatic testing of variety of digital IC , potential free 40 pins , Zif socket is provided to cater to the testing needs for IC upto 40 pins, Six seven segments display to have interaction with user, 16 keys keyboard with descriptive engraving of its function, audio buzzer for bringing users attention.	10					
58	**Basic electronic trainer** in built power supplies AC/DC variable with facility of performing various experiments on basic electronics including all active and passive components, having diodes / transistor, ohms law , kcl, kvl etc. optoelectronic device , half wave full wave rectification, power supply troubleshooting, amplifiers, oscillators, invertor, logic gates, mixer modulator, demodulator, digital display, speaker 8 ohms , Scr experimental facility band manual .	47					
59	**Temp. controlled** soldering station 25 watts.:- 25 watts soldering station with digital temperature controller + soldering iron bits interchangeable, temperature ranges 65 to 450 C , bench stand included, sensor thermocouple.	30					

1	2	3	4	5	6	7	8
60	**Temperature Controlled** De-soldering Station:-Hot Air Gun:- Power consumption -700 watts, temp. Control- 100 -480, Gas flow -120 L / Min , with different nozzles , tweezer, interchangeable accessories	12					
61	**Fractional H.P. AC Motor** :-speed of this motor is 1765 RPM at 50 Hz it is known that the synchronous speed of a 4-pole motor is 1800 RPM . When fully should not heat up . Single phase 0.5 Hp	06					
	Fractional H.P. DC Motor speed of this motor is 1565 RPM at 50 Hz that the synchronous speed of a 4- pole motor is 1800 RPM . When fully should not heat up . 0.5 Hp	02					
62	**Logic Probe and Pulsar**:- T T L & CMOS , Indicating logic states by ' 0 ' 0r '1 ' using 7 segment display .	22					
63	**IC Extractor:-** • The DIP-R-SIZER™ tool straightens DIP IC legs on 0.300 [7.62] or 0.600 [15.24] centers with one easy squeeze. • Place 0.300 [7.62] center ICs in one side of tool, 0.600 [15.24] center ICs in the other and just squeeze the handles together. • Brings leads into tolerance – 0.320 [8.12] or 0.620 [15.74] • The T-561AS tool is constructed from anti-static plastic.	24					
64	Signal Tracer:- Injector 0-2 .5 Vrms output (adjustable) output impendence :1.5 K ohm frequency :± 1 Khz tracer:3.5 mV to 10 V rms sensitivity (adjustable) gain :40 DB input impedecne :50 Kohms output power :0.5 W / 8 ohm, power supply 7-9 VAC or 9-12 VDC/ 150 mA	10					
65	Frequency Modulator:- MODULATION FREQUENCY 50Hz to 3.4kHzFREQUENCY RESPONSE ±0.5dB, 50Hz to 3.4kHz DEVIATION ±15kHz (peak) for -16dBm input/3.4kHz input THD 0.1%, 50Hz to 20kHz SIGNAL TO NOISE >50dB (ref to 75kHz pk 50Hz to 15kHz) DEVIATION ADJUST ±5dB range (front panel adjust) AUDIO INPUT LEVEL -16dBm to 0dBm, max AUDIO INPUT IMPEDENCE 600 ohm, balanced INPUT CONNECTOR Removable terminal block Catalog attach.	22					
66	Digital Camera:- Resolution :18.70 M pixel, Maximum resolution: 5184x3456 pixels, Optical zoom : Yes LCD Screen size:3-Inch, Video function: Yes , Dimensions: 133.1x99.5x79.7	57					
67	Vacuum Cleaner (Small/ Large)	18					
68	Water filter and purifier	18					
69	Geyser	09					
70	Electric Over/Gas Over/Micro Oven	09					

Group: B

TRADE: MOTOR MECHANIC / DRIVER CUM MECHANIC.

NOTE :-
* All the above equipments should come with service tool kit.
* All the machinery, engines etc should come with user manual.
* Only products of ISO certified companies will be entertained.

S. No	Name of the Item with specification	Quantity	Rate per unit	VAT	Entry Tax	Other Taxes	Total.
1.	2.	3.	4.	5.	6.	7.	8.
1	Connecting Rod Alignment fixture	**04**					
2	Value Refracer Grinding capacity 0^0-90^0 Valve stem capacity 6mm to 14mm, valve Head capacity upto 90mm, grinding Wheel size 5" x ½" x 5/8", Grinding Wheel spindle 4000 rpm, working Head Spindle 175 rpm, Power required 0.5 HPwt:-100kg.	**01**					
3	**Multi point fuel injection pump**	**09**					
4	Arbor press hand operated ½ ton	**04**					
5	Petrol engine Brand New MPFI Type brand new A Latest model – MPFI 4 Cylinder Petrol Engine 1200 to 1900 cc, BHP:- 60 to 120 BHP at 5000/6000 rpm Brand New supported by excise clearance Petrol Engine of reputed make, Water Cooled along with all accessories. Radiator, Fuel Tank, Alternator, Battery (12 Volt 11 Plates Reputed Brand), Starter Motor, Cooling Fan, ECU, necessary Sensors, injectors, Panel Board with Warning Instruments such as Starting Switch, Speed Control Lever, temp. gauge, charging lamp, etc. Engine should be mounted on C – Channel Frame spray painted Machine manual should be provided with details of machine, accessories, components mounted Engine should be mounted on M.S Sturdy frame having four wheels for easy shifting	**09**					
6	**Diesel Engine 4 Stroke 4 Cylinder :**Reputed make Brand New supported by excise clearance, Water Cooled along with all accessories. Radiator, Fuel Tank, Alternator, Battery (12 Volt 11 Plates Reputed Brand), Starter Motor, Cooling Fan, Panel Board with Warning Instruments such as Starting Switch, Speed Control Lever, temp. gauge, charging lamp, etc. Engine should be mounted on C – Channel Frame spray painted Machine manual should be provided with details of machine, accessories, components mounted Engine should be mounted on M.S Sturdy frame having four wheels for easy shifting	**05**					

1.	2.	3.	4.	5.	6.	7.	8.
7	Electro hydraulic 2 post lift 4 ton capacity The column construction should be single piece, control panel operated with 24V controls, should have a limit switch for cut off, safety valve to Lifting capacity-4 Ton Lifting height -1800 mm Lifting time 45 seconds Overall height 3800 ± 100 mm Overal length 3400 ± 50 mm Lowest height 105 mm Motor 3 HP Power 415 V-3 HP-50 Hz CE certified & ISO certified	**02**					
8	**Diesel Smoke Meter with PC** Features: 32 Bit microprocessor based smoke exhaust analyzer based on heritage Geometry and micro controller technology fast warm up and response time relatively smaller in size and lighter in weight. Range Opacity 0 to 99.9% RPM 200-9999 Temperature : 0 deg c to 150 degc Light source green LED commanded by micro controller for extra long life. Detector: photo diode protected by lens and regulated in temperature. Capacity transducer: tube of 215 mm long regulated in temperature. Display: Alphanumeric LCD Display with backlit for day and night operation. Physical response time< 0.234 sec Electric response time =0.94 sec Communication: via serial port RS 232 software for computerization Operating temperature : 0 deg c-50 deg.c Power Supply: 230 VAC (+10%-15%), 50 Hz (+/-2%) or 12 VDC, 70 watts. PC to be supplied as std with 21" monitor & colour printer ARAI approved, CE certified & ISO certified	**05**					
9	**Exhaust Gas Analyser with PC** Features: 32 bit microprocessor based exhaust Gas Analyser, Easy to use bench top design, declaration of conformity to OIML, Class 9)ISO 3930) , Ideal for fault finding and regulated testing >measures, Co,HC,Co2,O2, and Lambda, Fast warm up time and fast response time, RPM and Oil Temperature Measurement, Print result via RS 232 and CNG vehicles. Product standard: OIML Class 0, ISO 3930 PC with monitor 21" & colour printer to be supplied as std accessory Measured Gases: Using NDIR bench Co/Co2/HC Using Electrod-Chemical Cells, o2 Lambda: -0.5 – 2.0 Power Supply: 100-300 v/1 ph/50-60 Hz RPM:2,4 stroke, DIS,2-12 cyl Warm up time 120 sec: Fuel types: Petrol, LPG, CNG: Weight: 5 Kg (Approx) Probe Insertion Length: 300mm Ambient Operating Range + 5 deg to +45 deg ARAI approved, CE certified & ISO certified	**03**					
10	Puller set steering wheel universal	**03**					
11	**Car Washer** HIGH Pressure Hot & Cold Car Washer 130 Bar at 10 lpm, the unit shall have 3 ceramic pistons, dry vertical boiler with diesel oil rid crank pump, pressure control device, total stop device, thermic switch for motor protection, thermostat for temperature setting, low pressure detergent intake from the built in tank CE certified & ISO certified	**01**					
12	Distributor 3 cylinder	**07**					
13	Distributor 4 cylinder	**03**					

1	2	3	4	5	6	7	8
14	**Water pump for 4 cylinder engine**	**05**					
15	**Oil pump for 4 cylinder engine**	**05**					
16	Filling jig for adjusting piston	**04**					
17	**Compressor air piston vehicular type** with brand new 4 cylinder diesel engine supported with excise clearance	**06**					
18	**Air Compressor:** 2 stage, twin cylinder air cooled, reciprocating type, driven by 7.5 HP 3 phase motor, with pure cast iron 175 PSIG operation, 250 ltr tank with 50 mtr heavy duty air pipe, nozzles & clamps complete	**02**					
19	**Model of Hydraulic Brake Assembly model** (Brake pedal, booster, Tandem master cylinder, wheel cylinder, brake drum-mock up assembly) The Brand New Hydraulic brake assembly will be mounted on sturdy stand. The assembly will consist of below stated parts to make it working. Front and rear drum will be suitably sectioned to see the breaking system in working condition. Tandem master cylinder Wheel cylinder Brake drum assembly Brake light unit in working condition Brake pedal Brake pipe line. Suitable Electrical motor with Reduction Gear box to be provided (V belt with Pulley) Oil Tank Front and Rear axle Required parts will be provided to make it complete working model. Front and Rear drum will be cut to on the stand. The whole arrangement is to be mounted on a C channel Frame stand spray painted with a predefined color codes for better understanding. The robust rubber wheels, ball bearing type, should be fitted on the stand to make it moving and rotating type The Operating Manual , the specification board made of Vinyl to be displayed at the front side of the Model and a laminated Chart on wooden frame showing exploded Assembly Drawing with parts name are to be provided along with the equipment	**03**					
20	**Vacuum Assisted Hydraulic Brake Assembly** The Brand New Vacuum Assisted Hydraulic brake mounted on sturdy stand. A 0.5 H.P, 1440 RPM motor driven with vacuum pump to operate brake will be provided, with suitable control. Color code will be provided for better understanding. Front and rear Drum each one side to be cut to show the braking system in working condition. The magnetic Valve & the stop light working on a transformer 12 V capacities. The following parts should be displayed. Tandem Master cylinder, Brake oil Container, Vacuum Brake Valve, Vacuum Tank, Alternator with vacuum pump to be in oil container, brake pedal, brake drum assembly, hose and brake pipeline, rear axle with casing, 0.5 HP, 1440 RPM Electric Motor Drive by alternator and with 1:40 ratio reduction Gear Box. etc. The whole arrangement is to be mounted on a C channel Frame stand spray painted. The robust rubber wheels, ball bearing type, should be fitted on the stand to make it moving and rotating type The Operating Manual, the specification board made of Vinyl to be displayed at the front side of the Model and a laminated Chart on wooden frame showing exploded Assembly Drawing with parts name are to be provided along with the equipment.	**03**					

1	2	3	4	5	6	7	8
21	**Air brake Assembly** The brand New Air brake mounted on sturdy stand. A motor driven air compressor be provided with air tank and brake assembly. It must be able to demonstrate the working of air brake. The equipment should be supplied duly painted, with a predefined color code for better understanding. Assembly should be provided with below stated parts to make it working model. Air Compressor (Motor 1 HP, 1440 rpm) Oil Reverse Over load valve (working pressure 7.2 bar to 8.5 bar) Stop light switch Dual brake valve Air gauge and air filter Low pressure pipe Low pressure indicator switch Brake Chamber Air tank Brake drum assembly Brake pedal Suitable Electric Motor with Reduction Gear box (With Vbelt, Pulley) Brake light Stub Axle. Brake hoses & Pipes The whole arrangement is to be mounted on a C channel Frame stand spray painted. The robust rubber wheels, ball bearing type, should be fitted on the stand to make it moving and rotating type The Operating Manual with parts catalogue, the specification board made of Vinyl to be displayed at the front side of the Model and a laminated Chart on wooden frame showing exploded Assembly Drawing with parts name are to be provided along with the equipment.	**03**					
22	Brake lining reverting machine foot operated	**03**					
23	**Single Plate Clutch Assembly** A Brand New Single Plate clutch assembly with flywheel suitable for LCV with working mechanism mounted on a heavy duty Mild Steel sturdy and suitable frame spray painted. The robust rubber wheels, ball bearing type, should be fitted on the stand to make it moving and rotating type. The Operating Manual, the specification board made of Vinyl to be displayed at the front side of the Model and a laminated Chart on wooden frame showing exploded Assembly drawing with parts name are to be provided along with the equipment.	**03**					
24	Axle gear boxes steering boxes front axle assembly independent front wheel spring assembly and brake	**03**					
25	Full floating axle and semi floating axle assembly with brake and drum	**02 No.**					
26	**Petrol Engine 4 stroke (Scooter) in running condition** A Latest model - Brand New Petrol Engine supported by excise clearance, self / kick start along with all accessories, Fuel Tank, Battery in case of self start, Panel Board with Warning Instruments such as Starting Switch, Speed Control Lever, etc. Engine should be mounted on C – Channel Frame spray painted Machine manual in original should be provided. Specification Board made of vinyl should be displayed at the front side of the model. Laminated Chart with wood frame showing exploded Assembly drawing with part names.	**06**					

1.	2.	3.	4.	5.	6.	7.	8.
27	**Spark plug cleaning & testing equipment** Glow plug tester 12 volt heater plug, connection self test (green), condition of the glow plug is indicated with good (green) , defective (red), test result in less than 15 seconds, the test may be executed with glow plugs mounted.	**04**					
28	**Tyre Changer** Wheel Dia standard = 10" to 20", operating pressure=100:175PSI, Bead Breaking force=2800 kg, electric motor=220v/440v 50HZ, Dimension=1300 x 850x 800, Clamping pneumatic with 4 jaws complete. CE certified & ISO certified	**01**					
29	Chain Block 3050 kg	**02**					
30	**Engine Scanner for diesel & petrol engines:** Specifications Measurement Ranges Battery Volts . to 19.99 Volts Volts, Aux (10 Meg) .. ±20.00VDC.to 50.0 VAC Pk-Pk Amps, Inductive 0 to ±600 Amps Tachometer :100 to 5,000 RPM Dwell, Ignition:Degrees, %, or mSec. Driver/Points Resistanc. 0 to 3.0 Volts Dwell Variation in Degrees Timing Variation : in Degrees Ignition Coil Amps:.0 to 19.9 mSec Coil Amps Build Time.0 to 9.9 mSec Spark Burn Time 0 to 9.9 mSec Ignition Energy : 0 to 99 milliVolt-Seconds Secondary KV :0 to 32 Kilovolts Pulse Rate :0 to 999 Hz Cylinder Power Balance :% RPM Drop Cylinder Power Contribution : Speed Index Amps Ripple :Message Indicator Cranking Compression : % Amps Peak Injector Amps Drive Time :0 to 99.9 mSec Injector Peak Amps: 0 to 19.9 Amps Throttle Position Sensor: Glitch Catcher O2 Sensor: Volts and Crossings Physical Dimensions Case Size :28x33x9 cm 11x13x3.5 in Power Requirements :12 Volt Vehicle Battery & ISO certified	**03**					
31	**Wheel Balancer** Computerized with 16 bit microprocessor controlled, video graphic display, cars, lcv's & trucks, automatic detection of tyres, low balancing speed for cars 120 rpm & for trucks 80 rpm, automatic gauge for distance & diameter measuring & applications of adhesive weights, automatic wheel clamping, automatic start / stop, 1 gm resolution for cars & 10 gm for trucks, 3 balancing modes, 7 alu programs, alloy wheel balancing, shift plane / split weight / hidden weight program, emergency stop, safety handle, wheel guard, pneumatic lift, car & truck working rim width setting range 4" to 22", rim dia setting range for cars &trucks 12" to 30", maximum wheel/machine distance 400 mm, maximum wheel width 700 mm, maximum wheel diameter 1220 mm, maximum wheel weight 200 kg, power 320 watts, total wt 255, car balancing speed 120 rpm, truck wheel balancing speed 80 rpmresolution 1gm, maximum unbalance value calculated 1990 gms, average spin time of wheels for cars 8 sec & for trucks 18 sec, shaft diameter 46 mm CE certified & ISO certified	**02**					
32	**Portable air compressor** Single cylinder with Single cylinder, reciprocating type with single phase 2 HP motor, 45 ltrs tank with wheels	**01**					
33	**Hydraulic lifting crane** One ton capacity with chain block & tackle arrangement Min Lift 690 mm Max Lift-2820 mm with chain block and tackle arrangement.	**01**					

1.	2.	3.	4.	5.	6.	7.	8.
34	**Engine tuning equipment** such as dual angle tester etc.	**02**					
35	**Disk brake model** brand new	**02**					

Group: C

TRADE: FASHION TECHNOLOGY / DRESS MAKING / CUTTING & TAILORING.

S. No	Name of the Item with specification	Quantity	Rate per unit	VAT	Entry Tax	Other Taxes	Total.
1.	2.	3.	4.	5.	6.	7.	8.
1	**Commercial type Sewing Machine** with treadle and motor mouted suitable on table having a drawer:- • Major components / arm shaft tempered for longer life. • Simple straight stitch machine. • Advanced tension assembly. • Feed drop/ reverse feed mechanism. • Auto bobbin winder. • Motorized / treadle / hand models with cover. • Optional 1/20 H.P. Motor.	**110**					
2	**Fashion Make Machine:-** • Full Shuttle machine (Rotary Hook) • Gear Type machine for prolonged durability. • Very convenient to operate. • Specially designed for picot, darning, shade work and straight stitching on and type of cloth such as silk, cotton, rayon etc. • Compatible with single and double needle operation. • Ideal for straight stitch and zig-zag with rotary hook facing the operator. • High-speed machine with a capability of stitching up to 200 stitches per minute. • Stitch width: 6mm. • Stitch length: 5mm Drive system :(a) Manual- Foot treadle on stand / table (Motorized)	**18**					
3	**Over Locking Machine**:- Industrial Sewing Machine ideal for over-locking in knitting goods, undergarments, woolens with necessary attachments with stand and heavy sun mica top. • Single needle three thread over locking Machine. Trimming and over edging operation. ¼ HP motor for high speed for treadle for lower speed. Crafted from heavy duty and grinded steel components. Speed- 3300 SPM.	**24**					
4	**Botton Hole Machine Motorized**:- A Single needle lock stick botton Machine for a consistent seam quality that works with ease on a variety of materials. • Easily adjustable size and position of button holes. • Fitted with low noise and stop-motion mechanisms. • A high lift work clamp for ease of operation. Suitable for shirts, blouses and knitted fabrics	**11**					

1	2	3	4	5	6	7	8
5	**Bar-tack Machine Motorized**:- Needle Size:- DPx5(14,19).Needle Bar Stroke:41.2mm. Pressure foot lift:-17mm, Thread trimming:-Automatic. Bar-tack size(minimum):-8mm. Bar-tack (Maximum): 16mm. Vertical Bar-tacking: 1.5-3mm. Lubrication:-Automatic. Speed:- 2300spm. Motor Power:- 400Watt	**15**					
6	Sewing Treadle Machine Lock Stitch	**91**					
7	**Single Needle Lock Stitch** Industrial Machine Designed for Smooth, defect-free sewing. It provides ease of convertibility for a variety of applications, resulting in higher productivity with complete in all respect with all the Standard accessories and stand. • Mechanical and electro-mechanical models for light, medium and heavy weight functions. • Attachment ring feature for improved productivity. • Display screen (operation panel) displaying basic operations e.g. Speed, No. of back tack stitches, thread trimming etc. • Wiper mechanism for sequential operations and consistent quality. • Panel to support various stitch types. • Feed dog bias adjustment for smooth fabric movement. • Servo motor for power-saving operations. •	**01**					
8	Dummies Gents 40 Full	**17**					
9	Dummies Ladies 12 Full	**16**					
10	Dummies Children 4 Full	**14**					
11	**Machine Attachments:-**						
I	Zipper foot,	**14**					
II	Tucker Foot	**15**					
II	Hem folder.	**09**					
IV	Narrow Hammer.	**02**					
V	Pintuck Foot	**02**					
VI	Overedge Foot	**02**					
VII	Ruffler Attachment	**02**					
VIII	Suam Guage.	**02**					
IX	Zig Zag.	**09**					
X	Round Cutter Electrical.	**07**					
XI	Straight Knife Cutter(Motorized)	**06**					
XII	Pattern Notching	**04**					
XIII	Pattern Punch	**02**					

Group: D
TRADE: ELECTRICIAN TRADE.

S. No	Name of the Item with specification	Quantity	Rate per unit	VAT	Entry Tax	Other Taxes	Total.
1.	2.	3.	4.	5.	6.	7.	8.
1	**Electrical machine trainer :** suitable for demonstrating the construction and functioning of different types of DC machines and AC machines (single phase and three phase) should be completed with friction brake dynomo meter instrument panel and power supply units. **DC machine:** of capacity of 1 KW (dynameter) **AC machine** of cpacity of 1 kw 3 phase 440 w 50 cp and 230 volts 50 cycles.	**03**					
2	**Motor generator AC** to DC consisting of motor induction squirrel cage 7 HP 400 volts 50 cycles 3 phase with star delta starter and switch directly coupled to DC shunt generator 5 KW 440 volts and switch board mounts with regulator air circuit breaker ammeter voltmeter knife blade switches and fuses set complete with case iron and plate fixing bolts foundation bolts and flexible coupling.	**02**					
3	**Motor generator DC to AC** consisting of motor shunt 5 HP 440 volts with starting compensator and switch directly couples to generator AC 3.5 KVA 400/230 votls 3-phase wire 08 pf 50 cycles with exciter and 1 switch board mounted with regulator circuit breaker ammeter voltmeter frequency meter knife blade switch and fuses etc set complete with cast iron bed plate fixing bolts foundation bolts and 1 flexible coupling .	**02**					
4	**DC Shunt** generator 2.5 kw 250 v with control panel	**06**					
5	**D.C. Compound** generator 2.5 KW 250 v with control panel including filed rheostat voltmeter, ammeter and circuit breaker	**06**					
6	**Diesel generator** set 5 kva 440 volts AC 3 Phase with change over switch over current circuit breaker and water cooled with armature star delta connections.	**01**					
7	**Motor series DC** 220 Votls 0.5 to 2 HP coupled with mechanical load	**04**					
8	**Motor shunt DC 220** volt 2 to 3 HP with control panel	**05**					
9	**Motor DC compound** wound 220 volt 2 to 3 HP with starter and switch	**05**					
10	**Motor AC squirrel** cage 3 phase 400 v 50 cycles 3 hp with star delta starter and triple pole iron clad switch fuse	**03**					

1	2	3	4	5	6	7	8
11	Motor AC Phase wound slip ring type 5 hp 400 v 3 phase 50 cycles with starter and switch.	**06**					
12	**Motor AC single phase** 230 v 50 cycles with 3 hp mechanic load	**01**					
13	**Motor AC single phase 230** v 50 cycles 1 HP capacitor type with starter switch 1 Hp	**05**					
14	**Motor universal** 230 volt 50 cycles 1 hp with starter / switch	**08**					
15	**Thyristor/ IGBT controlled** DC motor drive 1 HP with techno generator feed back arrangement	**06**					
16	**Thyristor / IGBT controlled** A.C. motor drive with VVVF control, 3 phase 2 HP	**04**					
17	**Motor AC Series type** 1 HP 240 v 50 cycles capacity	**04**					
18	**Motor AC 230 V 1 HP** repulsion type complete with starter & switch	**03**					
19	**Automatic transformer 5 Kva 90**-290 v copper wound	**91**					

Group: E

TRADE: WELDER, SANITARY HARDWARE FITTER &PLUMBER.

S. No	Name of the Item with specification	Quantity	Rate per unit	VAT	Entry Tax	Other Taxes	Total.
1.	2.	3.	4.	5.	6.	7.	8.
1	**Transformer welding** fully copper winded continuous welding current single/ double phase 220-440 volts up-to 300 and 400 Amps with all accessories.	06					
2	**Welding Transformer** portable single phase oil cooled, 50-300 Amps.	02					
3	**Arc Welding Set** rectifier type 300-450 Amps continuous welding current with all accessories .	04					
4	**Welding Motor Generator** DC Rotary set 200-300 Amps, 3 phase , with remote and other accessories .	02					
5	**Co2 (Mig Mag Welding Machine)** complete 400 Amps with Co2 filled cylinder.	07					
6	**Submerged Arc Welding Plant** with all functions.	03					
7	**Tig Welding Machine** complete AC/ DC with inert gas filled cylinder.	07					
8	**D.E Grinder** 30 cm wheel motorized pedestal type with drill grinding attachments.	04					
9	**AG 7 Grinder motorized**	06					
10	**Portable drilling machine** cap. 6mm	05					
11	**Pipe cutter capacity** 50 mm diameter	02					
12	**Oxy – Acetylene cutting torch with assorted nozzles.**	04					
13	**Pressure regulator** O2 double stage	08					
14	**Pressure regulator** acetylene double stage.	08					
15	Portable welding Machine (invertor Type)	01					
16	Pillar type Drilling Machine Cap. 25mm	05					
17	**Circular cutting Machine** (Automatic with accessories)	02					
18	**Power Hacksaw Hydraulic** control, motorized automatic lifting and lowering arrangement, 2 Hp motor 3 phase, having capacity to cut round bars up-to 100 mm	03					
19	**Pipe Bending Device Hand operated** iron bender to bend round, flats, tubing, square, conduits etc. with 8 attachments, capacity ½" to 4"	04					
20	Pedestal type Grinder double ended wheel 200 mm with 3000 RPM.	06					
21	**Oxy-acetylene welding set** complete with cylinders regulators welding torches high pressure with different nozzles & hose pipes	08					

1.	2.	3.	4.	5.	6.	7.	8.
22	**Cylinder trolley, two wheel type**	**04**					
23	**Electric Pump 1 Hp single phase 240 volts**	**05**					
24	**Hydraulic pressure machine** for testing leakage in GI Pipe fitting etc	**05**					
25	**Bench drilling machine** with chuck and key upto 15 mm cap	**05**					
26	**Hand Drill, Electric Drilling Machine** with bits (Cap. 6mm) Hand Operated	**03**					
27	**Inner and outer** threading machine electric	**02**					
28	**PVC Welding Plant.**	**05**					
29	**Portable forge** 450 mm with hand blower	**02**					

Group: F

TRADE: Turner & Machinist.

S. No	Name of the Item with specification	Quantity	Rate per unit	VAT	Entry Tax	Other Taxes	Total.
1.	2.	3.	4.	5.	6.	7.	8.
1	**Lathe Machine SS&SC** (All geared head Stock) 15cm centre height to admit 120 cm between with Electro Magnetic System, Foot brake, Spindle bore size 50mm, Length of Bed 1500mm(Approx) width of bed 305mm(Approx) RPM40-1400(Apron) Spindle speeds 16(MIN and Max 25-2000). **Accessories and Attachments as under :-** 1. Four Jaw independent chuck-250mm (With back Plate) 2. Three Jaw Self centering chuck 200mm (With back Plate) 3. Fixed Steady (As per machine Size of Bed) 4. Travelling Steady (As per machine Size of Bed) 5. Face plate and Driving plate (According to machine Spindle) 6. Quick change Tool post with tool holder(4 Turning +1 Boring) 7. Quick change Gear box for metric and British threads 8. Live and Dead centers with sleeve MT-3 9.Revolving Centre MT-3 10.Lead Screw 4TPI or 6 TPI 11.Main Motor 3 HP 12. Cross Slide Travel 240-50mm 13.Top Slide Travel 130-40mm 14.Thread Dial Indicator (According to Lead Screw size) 15.Thread Range 0.5 to 6mm Pitch and 4 to 40 TPI 16.Taper Turning Attachment 17.Key Way Cutting Attachment 18.Grinding Attachment (Internal & External) 19.Change Gear Set Cutting Module & DP thread 20.Lathe Manual 21. Rear Tool post with tool Holder	01					
2	**Lathe machine SS & SC** (All geared type) 20cm Centre height to admit 120cm between centers, Swing over bed 475-500mm, Swing over cross slide 275-300mm, Spindle bore size 50mm. Length of bed 1500mm (Approx) Width of bed 305mm (Approx) RPM 40-1400(Approx) and Electro Magnetic foot brake system. Spindle speeds 16(Max & MIN 25-2000) **Accessories and Attachments** 1. Four Jaw Independent chuck-250mm (With back Plate) 2. Three Jaw Self Centering chuck 200mm (With back Plate) 3. Fixed Steady (As per machine Size of Bed) 4. Travelling Steady (As per machine Size of Bed) 5. Face plate and Driving plate (According to machine Spindle) 6. Quick Change tool post with tool	02					

	holder(4 Turning +1 Boring) 7. Quick change gear box for metric and British threads 8. Live and dead centers with sleeve MT-3 9. Revolving centre MT-3 10. Lead Screw 4TPI or 6 TPI 11. Main Motor 3 HP 12. Cross slide Travel 240-50mm 13. Top Slide Travel 130-40mm 14. Thread Dial Indicator (According to Lead Screw size) 15. Thread Range 0.5 to 6mm Pitch and 4 to 40 TPI 16. Taper Turning Attachment 17. Key Way Cutting Attachment 18. Grinding Attachment (Internal & External) 19. Change Gear Set Cutting Module & DP thread 20. Lathe Manual 21.Rear Tool post with tool Holder						
3	**Lathe tool room SS & SC** (All gear type) 15cm center height, 120cm between centers. Machine to be motorized & Supplied with coolant installation. Spindly bore size 40mm, Length of bed 1500mm (Approx) Width of bed 240-300mm. RMP 40-1400(Approx) and Draw in type of collets set upto 25mm, 0.5mm relieving attachments. **Accessories and Attachments** 1. Four Jaw Independent chuck-250mm (With back Plate) 2. Three Jaw Self centering chuck 200mm (With back Plate) 3. Fixed Steady (As per machine Size of Bed) 4. Travelling Steady (As per machine Size of Bed) 5. Face plate and Driving plate (According to machine Spindle) 6. Quick change tool post with tool holder(4 Turning +1 Boring) 7. Quick change gear box for metric and British threads 8. Live and dead centers with sleeve MT-3 9. Revolving centre MT-3 10. Lead Screw 4TPI or 6 TPI 11. Main Motor 3 HP 12. Cross slide Travel 240-50mm 13. Top Slide Travel 130-40mm 14. Thread Dial Indicator (According to Lead Screw size) 15. Thread Range 0.5 to 6mm Pitch and 4 to 40 TPI 16. Taper Turning Attachment 17. Key Way Cutting Attachment 18. Grinding Attachment (Internal & External) 19. Change Gear Set Cutting Module & DP thread 20. Lathe Manual 21.Rear Tool post with tool Holder	02					
4	Power Hacksaw machine Hydraulic food system 400mm blade size with bar stand adjustable **Specifications as under :-** (i) Size of Power Hacksaw_____ 8" to 9" (ii) Stroke of Power Hacksaw_____ 5" to	01					

	6" (iii) Electric Motor required_____1.5 HP (iv) RPM of Motor_____ 1440 (v) Blade Size_____14" to 16" (vi) Capacity of round Bar_____ 7" to 8" (vii) Capacity of Square Bar_____ 4 to 6" (viii) Weight _____ 3.5 to 4.Qtls. (ix) Length of Power Hacksaw_____ 3.'00 to 3'.6" (x) Breadth of power Hacksaw_____ 1 ½ Feet (Approx) (xi) Height of Power Hacksaw_____2 Feet(Approx) (xii) No. of Stroke per Min._____ 100-120						
5	**Capstan Lathe machine** 250mm Sawing 25mm spindle bore with all accessories and attachments including collect chuck and sets Specification of Machine as under :- (i) Maximum collect capacity _____ 20mm (ii) Range of Spindle Speeds _____650-1600 RMP (iii) Stroke of Turret slide_____ 100-115mm (iv) Bore size in turret Hex head_____ 25mm (v) Center of Hole above turret Slide____45mm (vi) Maximum distance between Spindle nose to turret face_____300mm (vii) Cross Slide Transverse travel_____ 90-95mm (viii) Cross Slide Longitudinal travel_____300mm (ix) Length of Bed_____ 980-1000mm (x) Width of Bed_____175-200mm (xi) Height of the center above Bed____ 160-170mm. **Tools:-** (i) Centering and facing tool holder (ii) Parallel shank Drill sleeves for holding taper shank drill (iii) Knee Tool Holder (iv) Boring Tool Holder (v) Multi Tool Holder (vi) Knurling Tool Holder (vii) Tap Holder (viii) Die Holder (ix) Straight Drill Arbor for Capstan Lathe along with Drill chuck capacity ½" with key (x) Floating Reamer Holder **Standard Equipment:-** (i) Hand operated dead length bar chuck (ii) One collet (iii) Cross slide with two tool posts (iv) Bar feed (v) Splash guard, (vi) Spanner set. (vii) Allenkey Set (viii) Vertical Slide (ix) Chuck plate (x) Coolant Pump and its fitting (xi) Pannel Board (xii) 2 HP ISI Marked Motor	02					
6	**Lathe SS & SC** (Cone pulley type) 12cm height of center, 90cm between centers. Machine to be Motorized ,Single tool post, Spindle bore size	01					

	35mm, Length of bed 1200-1300mm, Width of bed 230-240mm, RPM 45-800, Quick Morton gear box system. **Accessories and Attachments.** 1.Four Jaw independent chuck-250mm (With back Plate) 2.Three Jaw Self centering chuck 200mm (With back Plate) 3.Fixed Steady (As per machine Size of Bed) 4.Travelling Steady (As per machine Size of Bed) 5.Face plate and Driving plate (Accodding to machine Spindle) 6.Quick change tool post with Tool holder(4 Turning +1 Boring) 7.Quick change gear box for metric and British threads 8.Live and Dead centers with sleeve MT-3 9.Revolving centre MT-3 10.Lead Screw 4TPI or 6 TPI 11.Main Motor 3 HP 12.Cross Slide Travel 240-50mm 13.Top Slide Travel 130-40mm 14.Thread Dial Indicator (According to Lead Screw size) 15.Thread Range 0.5 to 6mm Pitch and 4 to 40 TPI 16.Taper Turning Attachment 17.Key Way Cutting Attachment 18.Grinding Attachment (Internal & External) 19.Change Gear Set Cutting Module & DP thread 20.Lathe Manual 21.Rear Tool post with tool Holder						
7	**Shapping Machine** 315 mm Stroke (Hydraulic Motorized with all attachments IS 5990-1971 **Specification as under:-** Table/Size_____315X280 mm Horizontal travel _____400 mm Vertical travel _____300 mm No. of Speed_____6 Motor _____2 HP With Accessories (Machine Vice)	**01**					
8	Double column Planer 1500x1000x1000 (Motorized) with all attachments **Specification as under:-** 1. Size between column 1800 mm (Min) 2. Length of stroke 2 mtr (Min) 3. Width between column 1500 mm (Min) 4. Height under cross rail 1500 mm (Min) 5. No. of T-Slots 6 Nos 6. No. of Tool Post 2 Nos 7. Horizontal Traverse of Tool Holder 300 mm (Min) 8. Vertical Traverse of Tool 300 mm (Min) 9. Swiveling of Tool Head either side 50 mm (Min) 10. Swiveling of clapper box mm (Min) 11. Vertical Traverse of Cross rail 1400 mm (Min) 12. Elevating traverse of cross head 1200 mm (Min) 13. **Speeds and Feeds:** Range of table speeds forward 3 Speeds (Min) 8 to 16 M/per min **Main Drive Motor Power**Speed of Motor 1440 RPM	**01**					
9	**Radial drill 1200** mm area motorized with tapping attachments IS: 6893-1973 (Part-3)	**01**					

10	Silicon Carbide grinder for carbide tipped tools	01					
11	**Milling machine plain** type horizontal (Motorized) No. 2 with all attachments IS: 6893-1973	01					
12	**Milling machine** vertical No.1 (Mtorized) with all attachments IS 6893-1973	01					
13	**Surface grinding machine** wheel dia 180 mm (or near) reciprocating table longitudinal table traverse 200 mm (or Near) fitted with adjustable traverse stop. Full motorized supplied with magnetic chuck 250 mm x 120 mm diamond tool holder set of spanner, grease gun etc	01					
14	**Cylindrical grinder**	01					
15	**CNC milling trainer** with all accessories and consumable in duplicate **Specification as under:-** CNC Milling Machine suitable for teaching and Training in CNC programming and operation machine is to be programmed using ISO format with facility for proving the program one using tool path Graphics and the software should incorporate all major function and facilities used on industrial controller with further option of linking to Cad/Cam and CIM and FMS. **Specification as under:-** (I) Table Size _____450x180 mm (II) Longitudinal travel "x" Axis 250mm (III) Cross Travel "Y" Axis 150mm (IV) Head Travel "z" Axis 200 mm (V) Automatic Tool Changer (Capacity) 6 (VI) Standard Tool Packages for machine to be provided (VII) Spindle power_____1.5 HP (VIII) Spindle Range _____300 to 300 RMP (IX) Inside Taper _____150-30	01					

Group: G

TRADE: Refrigeration , Domestic House Keeping & Air Conditioning Mechanic Trade.

S. No	Name of the Item with specification	Quantity	Rate per unit	VAT	Entry Tax	Other Taxes	Total.
1.	2.	3.	4.	5.	6.	7.	8.
1	**Evacuating and Refrigerant charging station comprising** a) Rotary two stage vacuum pump and motor (with gas ballast & anti suck back) manifold with gauge & valves and capable of pulling vacuum upto 50 micron of Hg and with provision of connecting to a micron level vacuum gauge. b) Graduated charging cylinder with provision for temperature correction and all necessary isolating valves. 2)Evalution and charging station as above but fitted with weighing scale upto 2 kg in lieu of b) above and with accuracy of +/- gram, for charging hydrocarbon	01					
2	**Refrigerant charging station** complete dehydrates ¼ connector gas cylinder vacuum pump	01					
3	**Two stage rotary vacuum pump** of capacity approx. 60-100 1 pm capable of evacuation to 50 microns of Hg and fitted with gas ballast, anti suck back valve and single phase motor.	01					
4	**Air compressor, to stage** for all –less dry air , with rust proof tank assembly, heater and control max, pr.10kg./sq.cm cap 45 litter motor 1 HP	01					
5	**Descalling pump** set with stainless steel impeller and housing complete with motor 1 HP and accessories	02					

6	**Spray outfit** "v" twin with motor ½ Hp delivery up-to 120 litter free air pressure up-to 3 kg/ sq. cm. with spray gun and fitting	**02**					
7	**Pressure testing tank** lighting arrangement, pressure gauge (0to 35 kg/sqcm) double stage.	**03**					
8	**Testing Kit** with infra red bulb (200 watt capacity)	**01**					
9	**Refrigerator compression** type 300 liters double door double compressor system	**01**					
10	**Deep Freezer** 165 liter, 18 degree centigrade ¼ Hp.	**02**					
11	**Water cooler** storage type 80 liter capacity.	**03**					
12	**Cold storage plant** complete with all controls and accessories including cooling tower and water treatment plant capacity 15000k.cal/hr or working trainer model/ similar capacity. ACC controls should be digital type.	**03**					
13	**Condensing unit** with open type compressor air cooled condenser controls etc. capacity 3000 k.cal/hr	**02**					
14	**Reciprocating compressor** with provision of capacity control etc for demonstration capacity 9000 kcal/hr/Semi hermetic / open type.	**02**					
15	**Micron vacuum guage** capable of reading upto 20 microns	**02**					
16	**134 A refrigerant** in cylinders	**02**					
17	**Recovery unit** one each for CFC &134 A refrigerants with revering of cylinders	**02**					
18	**Reverse cycle** AC/ Heat pump 3000 kcal/hr. or 4500 kcal/hr.	**01**					

1	2	3	4	5	6	7	8
19	**Refrigerator 170** liter capacity using HC refrigerant	**09**					
20	**No frost refrigerator** 3000 liter capacity using HC refrigerant	**03**					
21	**Components of Car AC systems** a) Wobble plate compressor with mounting brackets b) Serpentine evaporator. c) Parallel flow condenser. d) Hoses, tubes receiver expansion value. e) Electrical components & wiring harness.	**01**					
22	**Hermetic** compressor 1.5 AC	**01**					
23	**Evaporator** of direct cooled refrigerator with capillary heat exchanger	**01**					
24	**Evaporator o**f frost free refrigerator	**01**					
25	**Wobble** Plant complete	**01**					
26	**Working trainer** model of Ice candy unit complete with stainless steel tank mould thermocole insulated agitator compressor motor etc. temp pressure refrigerant, gauges motor cap. 3000k cal/hr model simulator	**01**					
27	**Refrigeration trainer** comp. 1/3 hp single phase Air Cooled condenser Exp Device capillary tube HP / LP cutout thermostat gauges complete	**01**					
28	**Air conditioner** trainer single phase comp.2/3 ton cap. Air cooled condenser	**01**					

	with fan motor cooling cail fan motor, HP /LP cut out. Gauges energy meter find COP of refrigerant A/L Application						
29	**Bottle cooler** 110 ltr.	**01**					
30	**Air conditioning plant,** direct and indirect water chiller, complete with all controls including humidity controls including humidity control etc. capacity 15000k.cal/hr or working trainer.	**01**					
31	Recovery unit 1 each for CFC and 134 A refrigerant with recovering of cylinders	**01**					
32	Reverse cycle AC 4500 k . cal /hr	**01**					
33	**Portable Air LPG brazing** kit with 2 kg LPG cylinder torches, hoses, standard make. a) with straight flame b) with cyclone / swirl jet flame	**02**					
34	Vacuum Pump rotary two stage vacuum pump & motor (with gas ballast & anti suck back) 60 -100 rpm	**01**					
35	Manifold with gauges & valves & capable of pulling vacuum up-to 50 microns level	**01**					